LPDES PERMIT NO. LA0005851, AI NO. 2625, ACTIVITY NO. PER20060003

LPDES FACT SHEET AND RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

COMPANY/FACILITY: Entergy Services, Inc.
Wllow Glen Plant
P.O. Box 61000, L-ENT-5E
New Orleans, LA 70161-1000

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Yvonne Baker

DATE PREPARED: December 5, 2006

1. PERMIT STATUS

A. Reason For Permit Action:
Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711.

LAC 33: IX Citations: Unless otherwise stated, citations to LAC 33: IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

B. NPDES permit effective date: N/A
NPDES permit expiration date: N/A
EPA has not retained enforcement authority.

C. LWDPS permit: LA0005851
LWDPS permit effective date: 4/1/2002
LWDPS permit expiration date: 3/31/2007

D. Date Application Received: September 26, 2006

2. FACILITY INFORMATION

A. LOCATION – 2605 Louisiana Highway 75, St. Gabriel, Iberville Parish.
(Latitude: 30° 16' 13" Longitude: 91° 07' 05")

B. FACILITY TYPE/ACTIVITY – Entergy Gulf States, Inc., Willow Glen Plant, is a steam electric generating station with a net output of 2045 megawatts electrical (MWe). The plant has five fossil-fuel fired units primarily fueled by natural gas. However, the facility does have the capability to use No. 2 and No. 6 fuel oils as a secondary fuel source.

C. TECHNOLOGY BASIS - (LAC 33:IX.4903)

Guideline	Reference
Steam Electric Power Generation Point Source Category	40 CFR 423

Other sources of technology based limits:
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)

LPDES permit LAG6700000, effective on February 1, 2003
Best Professional Judgement

D. FEE RATE

1. Fee Rating Facility Type: Major
2. Complexity Type: III
3. Wastewater Type: I
4. SIC code: 4911

3. RECEIVING WATER

A. Stream: Mississippi River (Outfalls 001, 003, & 004)
B. Basin and Subsegment: Mississippi River, Segment 070301
C. TSS (15%), mg/L: 32.00
D. Average Hardness, mg/L: 153.42
E. Critical Flow, CFS: 141,955
F. Mixing Zone Fraction: 0.333
G. Designated Uses - primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply

Information based on the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11; Recommendation(s) from the Engineering Section. **Hardness and 15% TSS data come from monitoring station #319 at the LA 10 ferry landing in Plaquemine.**

A. Stream: Bayou Manchac via local drainage (Outfalls 002)
B. Basin and Subsegment: Lake Pontchartrain, Segment 040201
C. TSS (15%), mg/L: 11.00
D. Average Hardness, mg/L: 79.25
E. Critical Flow, CFS: 0.1
F. Mixing Zone Fraction: 1
G. Designated Uses - primary contact recreation, secondary contact recreation, and fish and wildlife propagation

Information based on the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11; Recommendation(s) from the Engineering Section. **Hardness and 15% TSS data come from ambient monitoring station #142 on Bayou Manchac near Prairieville.**

4. OUTFALL INFORMATION

Outfall 001

A. Discharge Type: once through non-contact cooling water
B. Treatment: screening and disinfection
C. Location: at the point of discharge from the turbine condenser cooling system, prior to where the once through non-contact cooling water discharge enters the Mississippi River at (Lat 30° 16' 14'', Lon 91° 07' 05"), 201.6 M.A.H.P.
D. Flow: 1481 MGD
E. Discharge Route: to the Mississippi River
F. Basin and Segment: Mississippi River, Segment 070301

Outfall 002

A. Discharge Type:	stormwater runoff, hydrostatic test water, and low volume wastewaters as defined in 40 CFR 423, including, but not limited to: floor and yard drains, boiler blowdown, fire system test wastewater, groundwater pump test wastewater, and vehicle rinse wastewater, and previously monitored treated sanitary wastewater
B. Treatment:	sedimentation and oil/water separator
C. Location:	at the point of discharge from the rectangular notch weir on the north side of the plant prior to mixing with any other waters at (Lat 30° 16' 55'', Lon 91° 06' 39"), 201.6 M.A.H.P.
D. Flow:	2.4 MGD
E. Discharge Route:	to local drainage thence into Bayou Manchac
F. Basin and Segment:	Lake Pontchartrain, Segment 040201

Internal Outfall 102

A. Discharge Type:	treated sanitary wastewater
B. Treatment:	aeration, clarification, and disinfection
C. Location:	at the point of discharge from the sanitary treatment facility prior to mixing with any waters of Outfall 002 at (Lat 30° 16' 33'', Lon 91° 06' 57")
D. Flow:	0.004 MGD
E. Discharge Route:	to Outfall 002
F. Basin and Segment:	Lake Pontchartrain, Segment 040201

Outfall 003

A. Discharge Type:	metal cleaning wastewater, hydrostatic test water, and low volume wastewaters as defined in 40 CFR 423, including, but not limited to: maintenance wastewater and water treatment wastewater
B. Treatment:	neutralization, chemical oxidation, chemical precipitation, and sedimentation
C. Location:	at the point of discharge from the cleaning process unit prior to mixing with any other waters at (Lat 30° 16' 28'', Lon 91° 07' 09"), 201.6 M.A.H.P.
D. Flow:	0.612 MGD
E. Discharge Route:	to the Mississippi River
F. Basin and Segment:	Mississippi River, Segment 070301

Outfall 004

A. Discharge Type:	clarifier underflow
B. Treatment:	neutralization, chemical oxidation, chemical precipitation, and sedimentation
C. Location:	at the point of discharge from the underflow from the raw river water intake clarifier
D. Flow:	intermittent
E. Discharge Route:	to the Mississippi River
F. Basin and Segment:	Mississippi River, Segment 070301

5. PREVIOUS EFFLUENT LIMITATIONS

Outfall 001 - continuous discharge of once through non-contact cooling water

EFFLUENT CHARACTERISTIC	*LIMITATION* Units (Specify)			MONTORING REQUIREMENTS	
	STORET CODE	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	50050	1386	1481	Continuous	Measurement
Temperature (°F)	00011	110	115	Continuous	Recorder
Total Residual Chlorine	50060	---	206 lbs/day	1/week	Grab

WHOLE EFFLUENT (Acute) TOXICITY TESTING	Percent %, UNLESS STATED			MONTORING REQUIREMENTS	
	STORET CODE	MONTHLY AVERAGE MINIMUM	48-Hour MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
NOEC, Pass/Fail [0/1] Lethality, Static Renewal, 48-Hour Acute, *Pimephales promelas*	TEM6C	Report	Report	1/year	24-hr. Composite
NOEC, Value [%] Lethality, Static Renewal, 48-Hour Acute, *Pimephales promelas*	TOM6C	Report	Report	1/year	24-hr. Composite
NOEC, Pass/Fail [0/1] Lethality, Static Renewal, 48-Hour Acute, *Daphnia pulex*	TEM3D	Report	Report	1/year	24-hr. Composite
NOEC, Value [%] Lethality, Static Renewal, 48-Hour Acute, *Daphnia pulex*	TOM3D	Report	Report	1/year	24-hr. Composite

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 001, at the point of discharge from the turbine cooling system prior to mixing with other waters

Outfall 002 - the discharge of low volume wastewaters (including but not limited to floor and yard drains, boiler blowdown, fire system test wastewater, groundwater pump test wastewater, vehicle rinse wastewater, and other sources as defined by 40 CFR 423), hydrostatic test wastewater, stormwater runoff, and previously monitored treated sanitary wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	*LIMITATION* Units (Specify)			MONTORING REQUIREMENTS	
	STORET CODE	MONTHLY AVERAGE	WEEKLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	50050	---	Report	1/month	Estimate
TSS	00530	30 mg/l	100 mg/l	1/month	Grab
Oil & Grease	03582	15 mg/l	20 mg/l	1/month	Grab
TOC	00680	---	50 mg/l	1/quarter	Grab
pH -Allowable range (standard units)	00400	6.0 Minimum	9.0 Maximum	1/month	Grab

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 002, at the point of discharge from the rectangular notch weir on the north side of the plant prior to mixing with any other waters.

Outfall 102 - the discharge of treated sanitary wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	*LIMITATION* Units (Specify)			MONTORING REQUIREMENTS	
	STORET CODE	MONTHLY AVERAGE	WEEKLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	50050	---	Report	1/6 months	Estimate
BOD_5	00310	---	45 mg/L	1/6 months	Grab
TSS	00530	---	45 mg/l	1/6 months	Grab
Fecal Coliform colonies/100 mL	74055	---	400	1/6 months	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Internal Outfall 102, at the point of discharge from the sanitary treatment facility prior to mixing with waters of Final Outfall 002.

Outfall 003 – the intermittent discharge of treated metal cleaning wastwaters, hydrostatic test wastewater, and low volume waste waters (including but not limited to maintenance wastewater, water treatment wastewater, and other sources as defined by 40 CFR 423)

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	*LIMITATION* Units (Specify)			MONTORING REQUIREMENTS	
	STORET CODE	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	50050	Report	Report	1/month	Estimate
TSS	00530	30 mg/l	100 mg/l	1/month	Grab
Oil & Grease	03582	15 mg/l	20 mg/l	1/month	Grab
Total Copper	01042	1 mg/l	1 mg/l	1/week	Grab
Total Iron	01045	1 mg/l	1 mg/l	1/week	Grab
pH -Allowable range (standard units)	00400	6.0 Minimum	9.0 Maximum	1/month	Grab

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 003, at the point of discharge from the cleaning process unit prior to mixing with other waters.

6. SUMMARY OF PROPOSED PERMIT CHANGES

Outfall 001

1. The frequency for the biomonitoring sampling has increased to 1/quarter. See Appendix A – Biomonitoring Recommendation.
2. A concentration limitation has been included for Total Residual Chlorine.

Outfall 002

1. The receiving water was changed from Bayou Paul via local drainage to Bayou Manchac via local drainage because a review of the topographic sectional map indicates that this discharge does not enter Bayou Paul before entering Bayou Manchac.

Outfall 004

1. This outfall was added for the discharge of clarifier underflow from water treatment wastewaters.

Part II Requirements

1. Part II conditions for implementation of 316(b) Phase II Rule requirements have been placed in the draft permit.

7. PROPOSED PERMIT LIMITS

The specific effluent limitations and/or conditions will be found in the draft permit. Development of permit limits are detailed in the Permit Limit Rationale section below.

8. PERMIT LIMIT RATIONALE

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b, the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D, whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, MONITORING FREQUENCIES AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The permittee is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Steam Electric Power Generating Point Source Category	40 CFR 423

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715] and to assure compliance with permit limitations [LAC 33:IX.2707.I]

D. MONITORING FREQUENCIES

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715] and to assure compliance with permit limitations [LAC 33:IX.2707.I]. Specific monitoring frequencies per outfall are listed in Section E.

E. OUTFALL SPECIFIC RATIONALES

Outfall 001

1. General Comments

According to the application, this outfall is the continuous discharge of once-through non-contact cooling water. During maintenance activities concentrations of an oxidizing agent are introduced to control biofouling.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow - MGD	1386	1481	Continuous	Measurement
Temperature (°F)	110°F	115°F	Continuous	Recorder
Total Residual Chlorine	---	206 lbs/day	1/week	Grab
Total Residual Chlorine	---	0.2 mg/L	1/week	Grab
Biomonitoring	See Below	See Below	1/quarter	See Below

Flow – The monthly average and daily maximum limitations, monitoring frequency, and sample type for flow have been retained from the current LPDES permit. This requirement is consistent with LAC 33:IX.2707.I.1.b. Flow is measured continuously by a recorder.

Temperature – The current LPDES permit established a monthly average of 110°F and daily maximum limit of 115°F. These limitations are retained with the same monitoring frequency and sample type of continuous monitoring by recorder.

Total Residual Chlorine – The daily maximum discharge limit for total residual chlorine of 206 pounds per day is retained from the previous permit in accordance with 40 CFR 423.13 (BAT) (b) (1). A concentration limit for total residual chlorine of 0.2 mg/L has been included in the permit in accordance with 40 CFR 423.13 (BAT) (b) (1) and to be consistent with other similar Entergy facilities. The monitoring frequency of once per week by grab sample is retained from the current LPDES permit. The Sample shall be representative of any periodic episodes of chlorination, biocide usage, or other potentially toxic substance discharge on an intermittent basis.

Biomonitoring Requirements - It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is,

therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
Acute static renewal 48-hour definitive toxicity test using fathead minnow (Pimephales promelas)	once per quarter
Acute static renewal 48-hour definitive toxicity test using Daphnia pulex	once per quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and salinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. However, the full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series - The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 19%, 26%, 35%, 46%, and 62%. The low-flow effluent concentration (critical dilution) is defined as 46% effluent.

Outfall 002

1. General Comments

According to the application, this outfall is the discharge of stormwater runoff, hydrostatic test water, and low volume wastewaters as defined in 40 CFR 423, including, but not limited to: floor and yard drains, boiler Blowdown, fire system test wastewater, groundwater pump test wastewater, and vehicle rinse wastewater, and previously monitored treated sanitary wastewater.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report	Report	1/month	Estimate
Total Suspended Solids	30 mg/L	100 mg/L	1/month	Grab
Oil and Grease	15 mg/L	20 mg/L	1/month	Grab
Total Organic Carbon	---	50 mg/L	1/quarter	Grab
pH, standard units	6.0 (min)	9.0 (max)	1/month	Grab

Flow – The flow requirements for reporting the monthly average flow and the daily maximum flow have been retained from the current LPDES permit. This requirement is consistent with LAC 33:IX.2707.I.1.b.

Total Suspended Solids - The current LPDES permit established a monthly average limit of 30 mg/L and a daily maximum limit of 100 mg/L for TSS in accordance with 40 CFR 423.12(b)(3). These limitations are retained with the same monitoring frequency of once per month by grab sample.

Oil & Grease - The current LPDES permit established a monthly average limit of 15 mg/L and a daily maximum limit of 20 mg/L for oil & grease in accordance with 40 CFR 423.12(b)(3). These limitations are retained with the same monitoring frequency of once per month by grab sample.

Total Organic Carbon - The current LPDES permit established a daily maximum limit of 50 mg/L for TOC. These limitations are retained with the same monitoring frequency of once per quarter by grab sample.

pH - The current LPDES permit established a minimum limit of 6.0 standard units and a maximum limit of 9.0 standard units for pH in accordance with 40 CFR 423.12(b)(1). These limitations are retained with the same monitoring frequency of once per month by grab sample.

Internal Outfalls

In accordance with LAC 33:IX.3305, the following is an explanation for the establishment of Internal Outfall 102. Certain permit effluent limitations at the point of discharge are impractical because at the final discharge point the wastes at the point of discharge are so diluted as to make monitoring impracticable. Therefore, in accordance with LAC 33:IX.2709 the internal outfall described below will remain in the permit.

Internal Outfall 102

1. General Comments

This outfall is the discharge of treated sanitary wastewater.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	WEEKLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	---	Report	1/6 months	Estimate
BOD_5	---	45 mg/L	1/6 months	Grab
Total Suspended Solids	---	45 mg/L	1/6 months	Grab
Fecal Coliforms colonies/ 100 mL	---	400	1/6 months	Grab

Flow – The flow requirements for reporting the weekly average flow with a monitoring frequency of once per 6 months by estimate have been retained from the previous LPDES permit. This requirement is consistent with LAC 33:IX.2707.I.1.b.

BOD_5 - The current LPDES permit established a weekly average limit of 45 mg/L for BOD_5 in accordance with the Class I Sanitary General Permit, LAG530000. These limitations are retained with the same monitoring frequency of once per 6 months by grab sample.

Total Suspended Solids - The current LPDES permit established a weekly average limit of 45 mg/L for Total Suspended Solids in accordance with the Class I Sanitary General Permit, LAG530000. These limitations are retained with the same monitoring frequency of once per 6 months by grab sample.

Fecal Coliforms - The current LPDES permit established a weekly average limit of 400 colonies/100mL for Fecal Coliforms in accordance with the Class I Sanitary General Permit, LAG530000. These limitations are retained with the same monitoring frequency of once per 6 months by grab sample.

Outfall 003

1. General Comments

According to the application, this outfall is the discharge of metal cleaning wastewater, hydrostatic test water, and low volume wastewaters as defined in 40 CFR 423, including, but not limited to: maintenance wastewater and water treatment wastewater.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY[1]	SAMPLE TYPE
Flow	Report	Report	1/month[2]	Estimate
Total Suspended Solids	30 mg/L	100 mg/L	1/month	Grab
Oil and Grease	15 mg/L	20 mg/L	1/month	Grab
Total Copper	1.0 mg/L	1.0 mg/L	1/week[3]	Grab
Total Iron	1.0 mg/L	1.0 mg/L	1/week[3]	Grab
pH, standard units	6.0 (min)	9.0 (max)	1/month[2]	Grab

Footnotes:

1 When discharging
2 When discharging metal cleaning wastewater, measurement frequency is 1/week.
3 Sampling shall coincide with times of discharging metal cleaning wastewater

Flow – The flow requirements for reporting the monthly average flow and daily maximum flow with a monitoring frequency of once per month by estimate have been retained from the previous LPDES permit. This requirement is consistent with LAC 33:IX.2707.I.1.b. When the discharge contains metal cleaning wastewater, the monitoring frequency is once per week.

Total Suspended Solids - The current LPDES permit established a monthly average limit of 30 mg/L and a daily maximum limit of 100 mg/L for TSS in accordance with 40 CFR 423.12(b)(3) and (5). These limitations are retained with the same monitoring frequency of once per month by grab sample.

Oil & Grease - The current LPDES permit established a monthly average limit of 15 mg/L and a daily maximum limit of 20 mg/L for oil & grease in accordance with 40 CFR 423.12(b)(3) and (5). These limitations are retained with the same monitoring frequency of once per month by grab sample.

Total Copper and Total Iron - The current LPDES permit established a monthly average limitation of 1.0 mg/L and a daily maximum limit of 1.0 mg/L for Total Copper and Total Iron in accordance with 40 CFR 423.12(b)(5). These limitations are retained with the same monitoring frequency of once per week by grab sample.

pH - The current LPDES permit established a minimum limit of 6.0 standard units and a maximum limit of 9.0 standard units for pH in accordance with 40 CFR 423.12(b)(1). These limitations are retained with the same monitoring frequency of once per month by grab sample.

Outfall 004

1. General Comments

This outfall is the intermittent discharge clarifier underflow.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY[1]	SAMPLE TYPE
Flow	Report	Report	1/month	Estimate

COAGULANTS:

The quantity and types of all coagulants (clarifying agents) used in the intake raw river water treatment clarification system during the sampling month shall be recorded. Records of the quantity and type of coagulants used shall be retained for three (3) years following Part III.C.3. No DMR reporting shall be required.

Footnotes:

1 When discharging

Flow – The flow requirements for reporting the monthly average flow and daily maximum flow with a monitoring frequency of once per month by estimate have been included based on similar discharges. This requirement is consistent with LAC 33:IX.2707.I.1.b.

Coagulants - The recording of coagulants have been included based on similar discharges.

Part II Specific Conditions

PROHIBITION OF PCB DISCHARGES

As commanded by 40 CFR 423.12(b)(2), a Part II condition is proposed in this draft permit prohibiting the discharge of polychlorinated biphenyl compounds.

"There shall be no discharge of polychlorinated biphenyls (PCB's). The minimum quantification level for PCB's is 1.0 µg/l. If any individual analytical test result for PCB's is less than the minimum quantification level, then a value of zero (0) shall be used for the Discharge Monitoring Report (DMR) calculations and reporting requirements."

CHEMICAL METAL CLEANING WASTE

The term "chemical metal cleaning waste" means any wastewater resulting from cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

METAL CLEANING WASTE

The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

LOW VOLUME WASTE SOURCES

The term "low volume waste sources" means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established. Low volume waste sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastewaters are not included.

TOTAL RESIDUAL CHLORINE

The term "total residual chlorine" (or total residual oxidants for intake water with bromides) means the value obtained using the amperometric method for total residual chlorine described in 40 CFR Part 136.

Total residual chlorine may not be discharged from any unit for more than two hours per day.

Simultaneous multi-unit chlorination is permitted.

TEMPERATURE

Daily temperature discharge is defined as the flow-weighted average (FWAT) and, on a daily basis, shall be monitored and recorded in accordance with Part I of this permit. FWAT shall be calculated at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:

$$\text{FWAT} = \frac{\text{SUMMATION (INSTANTANEOUS FLOW X INSTANTANEOUS TEMPERATURE)}}{\text{SUMMATION (INSTANTANEOUS FLOW)}}$$

"Daily average temperature" (also known as average monthly or maximum 30 day value) shall be the arithmetic average of all FWATs calculated during the calendar month.

"Daily maximum temperature" (also known as the maximum daily value) shall be the highest FWAT calculated during the calendar month.

ZEBRA MUSSEL TREATMENT

The terms and conditions of the zebra mussel treatment program submitted by Entergy Gulf States, Inc., Willow Glen Plant and approved by this Office on June 7, 1996 shall be enforceable as if part of this permit.

According to section 3.d., "Samples and Composites", of the biomonitoring requirements paragraph of this permit, the permittee must collect composite samples that "are representative of any periodic episodes of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis". Anytime the treatment method

involves an increase in the concentration of a treatment chemical, a change in the type of treatment chemical used, or if any event occurs that creates the potential for an effluent with a higher toxic nature, additional biomonitoring according to the terms and conditions of the biomonitoring section of Part II of this permit shall be required.

The permittee must notify this Office if changes occur in the zebra mussel control plan and obtain approval prior to initiating the new treatment. If chlorine is applied to control zebra mussels, the permittee must comply with a daily maximum Total Residual Chlorine (TRC) concentration limit of 0.2 mg/L. Monitoring shall be performed at a frequency of 1/day, by grab sample during periods of chlorine application.

PERMIT REOPENER CLAUSE

In accordance with LAC 33:IX.2903, this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit; or
3. Require reassessment due to change in 303(d) status of waterbody; or
4. Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body.

316(b) PHASE II RULE REQUIREMENTS

- July 6, 2004, EPA promulgated 'Phase II' regulations in accordance with section 316(b) of the Clean Water Act (CWA).
- January 25, 2007, the Second U.S. Circuit Court of Appeals remanded several provisions of the Phase II rule.
- March 20, 2007, EPA issued a memo saying, "the rule should be considered suspended".
- July 9, 2007, Federal Register notice suspending all parts of the Phase II regulations except 40 CFR 125.90(b) [LAC 33:IX4731.B]

LAC 33:4731.B provides for regulating the CWIS for existing facilities on a case-by-case basis using best professional judgment.

In order to reduce the environmental impact caused by the cooling water intake structure (CWIS), the permittee shall comply with effective regulations promulgated in accordance with section 316b of the CWA for cooling water intake structures. The permittee must evaluate the environmental impacts of their CWIS by characterizing the fish/shellfish in the vicinity of the CWIS and assessing impingement mortality and entrainment. Based on the information submitted to DEQ, the permit may be reopened to incorporate limitations and/or requirements for the CWIS.

The fish/shellfish impingement mortality and entrainment assessment must include the following:

1. Source water physical data including a narrative description, scaled drawings, location maps showing the physical configuration of the source water body, and other documentation which supports your assessment of the water body ;

2. Cooling water intake structure data including a narrative description of the configuration, location, engineering drawings, and operation of your CWIS, including design intake flow velocity; flow distribution, and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges;
3. Cooling water system data including a narrative description of the operation of your cooling water system, its relationship to the CWIS, the proportion of the design intake flow that is used in the system, the number of days of the year the cooling water system is in operation and seasonal changes in the operation of the system, if applicable; and
4. Source water biological evaluation which includes the fish/shellfish assessment and the impingement mortality/entrainment assessment.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENT

In accordance with LAC 33:IX.2707.I.3 and 4, a Part II condition is proposed for applicability to all stormwater discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, that plan could be incorporated by reference into the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasure Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of storm water associated with industrial activity, as defined at LAC 33:IX.2511.B.14.

9. COMPLIANCE HISTORY/COMMENTS

A. A review of LDEQ records from the time period of 2003, through 2006 was conducted and the following enforcement records were found:

A penalty assessment (Enforcement Tracking No.: WE-P-03-0290) was issued June 30, 2003 for an unauthorized discharge.
A warning letter (Enforcement Tracking No.: WE-L-04-0188) was issued on March 29, 2004.

B. The most recent inspection was conducted on November 2, 2005. All areas evaluated during the inspection were satisfactory.

C. A DMR review was completed for years 2003, 2004, 2005, and 2006. The following violations/excursions were noted:

Date	Outfall	Parameter	Permit Limit	Reported Value
05/31/03	003	TSS	30 mg/L	32.0 mg/L
03/31/06	002	TSS	30 mg/L	35.0 mg/L
03/31/06	102	Fecal Coliforms	400 colonies/100 ml	649 colonies/100 ml

10. WATER QUALITY CONSIDERATIONS

In accordance with LAC 33:2707.D.1.a, the existing discharges were evaluated to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause or contribute to an excursion above any state water quality standard."

The discharge from Oufall 001 consists of once through non-contact cooling water. The discharge from Outfall 003 consists of treated metal cleaning wastewaters, hydrostatic test wastewater, and low volume wastewaters as defined in 40 CFR 423, including but not limited to maintenance wastewater and water treatment wastewater. Metal cleaning wastewaters (both chemical and non-chemical) result from the cleaning washes/rinses of various plant equipment components including, but not limited to, the steam generator, the cooling water heat exchangers, and piping. The discharge from Outfall 004 consists of clarifier underflow. These outfalls discharge to the Mississippi River of the Mississippi River Basin, Subsegment 070301. Subsegment 070301 is not listed on LDEQ's Final 2004 303(d) List as impaired, and to date no TMDL's have been established. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by any future TMDLs.

The discharge from Outfall 002 consist of uncontaminated stormwater runoff, hydrostatic test water, low volume wastewaters as defined in 40 CFR 423, including, but not limited to: floor and yard drains, boiler Blowdown, fire system test wastewater, groundwater pump test wastewater, and vehicle rinse wastewater, and previously monitored treated sanitary wastewater. This outfall discharges to local drainage thence into Bayou Manchac of the Lake Pontchartrain Basin, Subsegment 040201. Subsegment 040201, Bayou Manchac - Headwaters to the Amite River is listed on the LDEQ 2004 303(d) List (2004 List) as being impaired with phosphorus, nitrogen, organic enrichment/low DO, pathogen indicators, TDS, chlorides and, sulfates. To date, no TMDLs have been completed for this waterbody. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a TMDL. Until completion of TMDLs for the Lake Pontchartrain Basin, those suspected causes for impairment which are not directly attributed to the Steam Electric Power Generating point source category have been eliminated in the formulation of effluent limitations and other requirements of this permit. Additionally, suspected causes of impairment which could be attributed to pollutants which were not determined to be discharged at a level which would cause, have the reasonable potential to cause or contribute to an excursion above any present state water quality standard were also eliminated.

Outfall 002 primarily consists of uncontaminated stormwater in addition to previously monitored treated sanitary wastewater, hydrostatic test water and low volume wastewater. The 303(d) listing for Subsegment 040201 primarily attributes the suspected causes of impairment to land development or redevelopment and to septic systems and similar decentralized systems. Given the suspected sources of impairment, and the nature and frequency of the low contamination of stormwater runoff, the minimal flow of the previously monitored treated sanitary wastewater and the infrequent discharge of hydrostatic test water and low volume wastewater, it has been determined that this outfall does not have the reasonable potential to further cause or contribute to the listed impairments. Therefore, no additional permit requirements are included to address listed impairments beyond the established permit conditions for total suspended solids (TSS), total organic carbon (TOC), biological oxygen demand (BOD_5), fecal coliform and the Stormwater Pollution Prevention Plan requirements. A TMDL study is scheduled to be completed by March 31, 2011 by the state, or no later than March 31, 2012 by the EPA.

11. ENDANGERED SPECIES

The receiving waterbody, Subsegment 070301 of the Mississippi River, has been identified by the U. S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon and migratory waterfowl. This draft permit has been submitted to the FWS for review in accordance with in a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse affect upon the pallid sturgeon and migratory waterfowl. Effluent limitations are established in the permit to ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. The more stringent of technology and water quality based limits (as applicable) have been applied to ensure maximum portection of the receiving water.

The receiving waterbody, Subsegment 040201 of the Lake Pontchartrain Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

12. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

13. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for discharges described in the application.

14. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the proposed issuance of LPDES individual permits and may request a public hearing to clarify issues involved. This Office's address is on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

A local newspaper of general circulation and
The Office of Environmental Services Public Notice Mailing List.

APPENDIX A

Yvonne Wingate Baker

From: Laura Keen
Sent: Friday, May 11, 2007 12:38 PM
To: Yvonne Wingate Baker
Subject: RE: Entergy Willow Glen LA0005851 biomonitoring - revision
Attachments: Entergy Gulf States, Willow Glen Plant - LA0005851.doc

Yvonne,

Attached you will find the revised biomonitoring recommendation for Entergy Gulf States, Willow Glen Plant (LA0005851). You will still need to use the "48HR ACUTE FRESH" biomonitoring language for this revision. Note that this facility is currently required to biomonitor only during periods of chlorination or upon biocide addition.

Please let me know if you have any questions.

Thanks,

Laura Keen
Environmental Scientist
Biomonitoring and Pretreatment
LDEQ Permits Division
225-219-3101 (phone)
225-219-3300 (fax)

From: Yvonne Wingate Baker
Sent: Friday, May 11, 2007 9:01 AM
To: Laura Keen
Subject: Entergy Willow Glen LA0005851 biomonitoring

In EPA's comments to the PDP, they requested we use the maximum 30-day average flow of 1481 MGD reported in the application to be consistent with the previous permit. Will you revise the biomonitoring recommendation for this facility?

Thank you,
Y

Yvonne Baker
Environmental Scientist
Louisiana Department of Environmental Quality
Office of Environmental Services
Water and Waste Permits Division
Phone No.: 225-219-3107
Fax No.: 225-219-3309

BIOMONITORING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **LA0005851**
Facility Name: **Entergy Gulf States, Willow Glen Plant**
Previous Critical Dilution: **46.2%** Proposed Critical Dilution: **46% (10:1 ACR)**
Date of Review: **11/29/06; revised 5/11/07** Name of Reviewer: **Laura Keen**

Recommended Frequency by Species:

***Pimephales promelas* (Fathead minnow):** **Once / Quarter**[1]
***Daphnia pulex* (water flea):** **Once / Quarter**[1]

Recommended Dilution Series: **19%, 26%, 35%, 46%, 62%**

Number of Tests Performed during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow):** **0**[2]
***Daphnia pulex* (water flea):** **0**[2]
***Daphnia magna* (water flea):** **N/A – Testing of species is not required**
***Ceriodaphnia dubia* (water flea):** **N/A – Testing of species is not required**

Failed Test Dates during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow):** **No testing performed during the last 5 years**[2]
***Daphnia pulex* (water flea):** **No testing performed during the last 5 years**[2]
***Daphnia magna* (water flea):** **N/A – Testing of species is not required**
***Ceriodaphnia dubia* (water flea):** **N/A – Testing of species is not required**

Previous TRE Activities: **N/A – No previous TRE Activities**

Additional Requirements (including WET Limits) Rationale / Comments Concerning Permitting:

Entergy Gulf States, Willow Glen Plant owns and operates a steam electric generating station in St. Gabriel, Iberville Parish, Louisiana. LPDES Permit LA0005851, effective April 1, 2002, contained freshwater acute biomonitoring as an effluent characteristic of Outfall 001. The effluent series consisted of 19.5%, 26.0%, 34.6%, 46.2%, and 61.6% concentrations, with 46.2% being the defined critical dilution. The testing was to be performed once per year and only during periods of chlorination for *Daphnia pulex* and *Pimephales promelas*. Toxicity Discharge Monitoring Reports on file indicates "No

[1] If there are no lethal effects demonstrated after the first year of quarterly testing, the permittee may certify fulfillment of the WET testing requirements in writing to the permitting authority. If granted, the monitoring frequency for the test species may be reduced to not less than once per year for the less sensitive species (usually *Pimephales promelas*) and not less than twice per year for the more sensitive species (usually *Daphnia pulex*). Upon expiration of the permit, the monitoring frequency for both species shall revert to once per quarter until the permit is re-issued.

[2] Biomonitoring was only required during periods of chlorination. Toxicity Discharge Monitoring Reports submitted during the past five years indicate "No Discharge" indicting there was no chlorination during this period.

Discharge" during the past five years indicating there was no chlorination during this period. Upon a November 29, 2006 telephone conversation with a representative of Entergy Gulf States, Willow Glen Plant, it was confirmed that the Willow Glen Plant does not currently chlorinate nor add biocides to their discharge of non-contact cooling water. It was also confirmed that the facility has not used chlorination nor added biocides during the past 5 years, and it is anticipated that they will not do so in the future.

It is recommended that freshwater acute biomonitoring continue to be an effluent characteristic of Outfall 001 in LA0005851. The effluent dilution series shall be 19%, 26%, 35%, 46%, 62% concentrations, with 46% being the defined critical dilution (the 10:1 Acute-to-Chronic ratio has been implemented because the critical dilution was less than 5%). In accordance with the Environmental Protection Agency (Region 6) WET testing frequency acceleration(s), the biomonitoring frequency shall be once per quarter for *Daphnia pulex* and *Pimephales promelas*. If there are no significant lethal effects demonstrated at or below the critical dilution during the first four quarters of testing, the permittee may certify fulfillment of the WET testing requirements to the permitting authority and WET testing may be reduced to not less than once per six months for the more sensitive species and not less than once per year for the less sensitive species for the remainder of the life of the permit. Upon expiration of the permit, the monitoring frequency for both test species shall revert to once per quarter until the permit is re-issued.

This recommendation is in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies (Revised June 30, 2000), and the Best Professional Judgement (BPJ) of the reviewer.